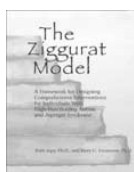


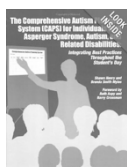
Ziggurat to CAPS

Presented by
Sonja Chatfield-Peetz
 Northeast Regional ASD Coordinator

The contents of this power point presentation were developed under a grant from the Nebraska Department of Education, IDEA parts B and C from the U.S. Department of Education. However, this content does not necessarily represent the policy of the U.S. Department of Education and you should not assume endorsement by the Federal Government.



By Ruth Aspy Ph.D. and Barry Grossman Ph.D.



By Shawn Henry



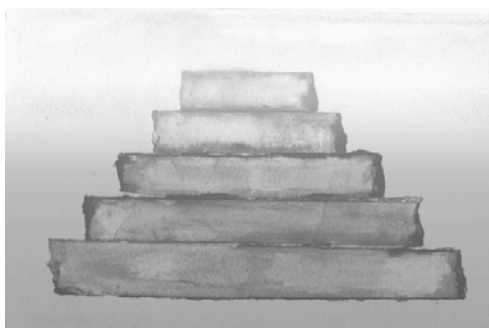
Overview of Training

- Introduce the Ziggurat Model
- How to assess and address underlying characteristics
- Five levels of intervention
- Evidence based intervention strategies and the ZM
- Apply ZM to scenario

Ziggurat n: (zig•gu•rat) from Assyrian *zigguratu*, height, pinnacle

- A temple having the form of a terraced pyramid of successively receding stories, erected by the ancient Assyrians and Babylonians
- A framework for designing comprehensive interventions for individuals with autism spectrum disorders.

The Ziggurat Model

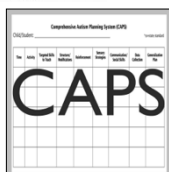


Why was the Ziggurat Model developed?

- Difficulty "Seeing the Autism"
- Tendency to apply one strategy to address all needs
- Tendency to ignore critical areas when designing an intervention

Three Areas of Expertise for Effective Intervention Planning

- Characteristics of ASD
- Range of effective interventions
- Comprehensive planning process



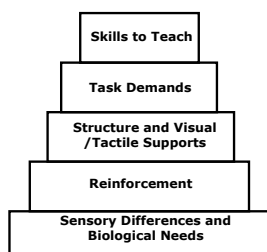
Intervention Ziggurat (IZ)

- IZ facilitates the development of targeted comprehensive positive interventions
- Incorporated five critical levels:
 - Sensory Difference and Biological Needs
 - Reinforcement
 - Structure and Visual/Tactile Supports
 - Task Demands
 - Skills to Teach

Characteristics

- Social
- Communication
- Repetitive Patterns
- Associated Features
- Sensory
- Motor
- Cognitive
- Emotional Vulnerability
- Medical and Biological Factors

Interventions



Why Comprehensive Planning With The Ziggurat Model?

- Fewer behavior problems
- More instructional time
- Increased compliance with law
- Increased engagement time
- Faster IEP development
- Better IEPs
- More positive/collaborative relationship with parents
- Improved collaboration among staff

Who is Involved in Comprehensive Planning?

- Parents
- Student
- General Education Teacher
- Special Education Teacher
- Para-professional
- Speech Language Pathologist
- Occupational Therapist
- School Psychologist
- Administrator
- Other as needed

Keys to Comprehensive Intervention Planning

A quality plan addresses the Autism – not just behavior



Characteristics

A quality plan is DESIGNED
to target the Autism
comprehensively

Design

Characteristics

Design

A quality plan is
IMPLEMENTED

It requires follow-through

Implement

Characteristics

Design

Implement

Keys to comprehensive intervention planning

Characteristics

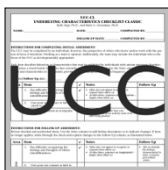
Design

Implement

4 Steps to Designing a Comprehensive Intervention Plan



Underlying Characteristics Checklist



1

- Helps you to "see" the autism
- Provides a "snapshot" of how autism is expressed for an individual
- A descriptive instrument
- Can be completed by a team
- Provides a tool for assessing progress/change



1

The UCC Areas

- Social
- Restricted Patterns of Behavior, Interests, and Activities
- Communication
- Sensory Differences
- Cognitive Differences
- Motor Differences
- Emotional Vulnerability
- Known Medical or other Biological Factors



1 UCC-EI for Young Children

- The UCC-EI is intended for individuals from 3 months through the fifth year (72 months).



1 UCC-HF for HFA and AS

UCC-HF
UNDERLYING CHARACTERISTICS CHECKLIST-HIGH FUNCTIONING
Ruth Aspy, Ph.D., and Barry G. Grossman, Ph.D.

NAME: _____ DATE: _____ COMPLETED BY: _____

FOLLOW-UP DATE: _____ COMPLETED BY: _____

INSTRUCTIONS FOR COMPLETING INITIAL ASSESSMENT:

The UCC may be completed by an individual; however, the perspective of others who know and/or work with the person of focus is beneficial. Working as a team is optimal. Additionally, the team may include the individual who is the focus of the UCC as developmentally appropriate.

Each item describes behaviors or characteristics that may be exhibited by individuals with autism spectrum disorders. Please place a check beside ALL items that currently apply to the individual. Use the Notes column to describe the behavior and characteristics in more detail, provide specific examples, or indicate frequency, settings, etc.

Projected Follow-up date: _____

Area	Item	✓	Notes	Follow-Up
SOCIAL	1. Has difficulty recognizing the feelings and thoughts of others (mindblindness)	✓	<ul style="list-style-type: none"> Does not recognize when classmates joke or "let her off" After being corrected at home, she apologetically asks her parents if they are still angry In role plays, she can accurately identify the feelings of others 4 out of 10 times 	



1 UCC-CL for Autistic Disorder

UCC-CL
UNDERLYING CHARACTERISTICS CHECKLIST-CLASSIC
Ruth Aspy, Ph.D., and Barry G. Grossman, Ph.D.

NAME: _____ DATE: _____ COMPLETED BY: _____

FOLLOW-UP DATE: _____ COMPLETED BY: _____

INSTRUCTIONS FOR COMPLETING INITIAL ASSESSMENT:

The UCC may be completed by an individual; however, the perspective of others who know and/or work with the person of focus is beneficial. Working as a team is optimal. Additionally, the team may include the individual who is the focus of the UCC as developmentally appropriate.

Each item describes behaviors or characteristics that may be exhibited by individuals with autism spectrum disorders. Please place a check beside ALL items that currently apply to the individual. Use the Notes column to describe the behavior and characteristics in more detail, provide specific examples, or indicate frequency, settings, etc.

Projected Follow-up date: _____

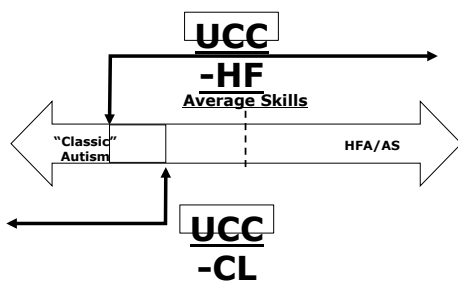
Area	Item	✓	Notes	Follow-Up
SOCIAL	1. Has difficulty recognizing the feelings and thoughts of others (mindblindness)	✓	<ul style="list-style-type: none"> Often does not appear to recognize or respond when others cry At other times, responses are inappropriate – laughs when others cry 	

UCC-HF or UCC-CL

Not a fine line. When in doubt, review the items from both and select the one that is the best fit.



UCC-HF or UCC-CL



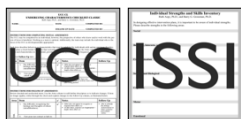
Individual Strengths and Skills Inventory



2

- Social
- Behavior, Interests, and Activities
- Communication
 - Sensory
 - Cognitive
 - Motor
 - Emotional

Complete UCC & ISSI



1 2
Characteristics

Additional Uses of the UCC and ISSI

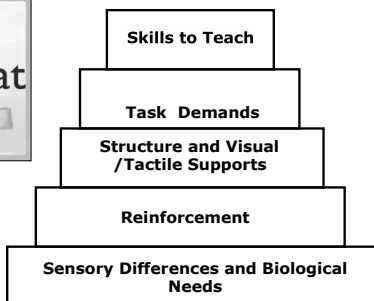
Reevaluation (informal)
Assessment recommendations

Parent training
Consultation





3





***"The last thing
one knows in
constructing a
work is what to
put first"***
-Blaise Pascal

Sensory Differences and Biological Needs


Intervention Ziggurat



**Sensory Differences and
Biological Needs**

Implications for Intervention

Research findings indicating genetic differences and structural anomalies of the brain confirm the pervasive and fundamental role of biology in ASD. The sleep disturbances, language deficits, anxiety, attention deficits, and sensory and motor difficulties seen often in individuals on the autism spectrum likely result from these underlying factors.



Sensory Differences and Biological Needs

- Provide a sensory diet
- Monitor and address environmental stressors:
 - Sound, light, proximity/personal space, textures
 - Movement needs
- Monitor and address:
 - Appetite/hunger
 - Arousal/activity level (e.g., fatigue, hyper)
 - Posture and movement
 - Medical needs



Sensory Issues



Asperger Syndrome and Sensory Issues

Practical Solutions for Making Sense of the World

By: Wendy Smith-Willett, Katherine S. Willett, Emily C. Willett, Lauren Willett, Lisa M. Riddell, Illustrated by: Penny Oakes, Foreword by: Wendy Smith

Sensory Assessment

- **Sensory Profile, Winnie Dunn**
 - Sensory Profile Infant and Toddler
 - Sensory Profile Adolescent Adult
 - Sensory Profile School Companion
- **Sensory Processing Measure, Heather Kuhanek, Diane Henry, Tara Glennon**

11



Sensory Differences

- Smell
- Taste
- Touch
- Visual Input
- Auditory
- Vestibular (balance)
- Proprioception
(body awareness)



Sensory - Key Points

- Sensory dysfunction influences all aspects of an individual's life.
- There are seven types of sensory dysfunction
- Interventions need to occur in ALL of the individual's environments.
- Assessments must be completed and interventions must be supervised by a trained occupational therapist.

Children with ASD have more difficulties with modulation and emotional reactivity when compared to their counterparts with autism

Brenda Smith Myles

Emotional Reactivity

- Displays emotional outbursts when unsuccessful
- Is stubborn or uncooperative
- Often gets “stuck” in a situation
- Is overly sensitive
- Reacts overtly when sensory systems needs are not met

Brenda Smith Myles


Sensory Diet Is...

- A planned and scheduled activity program designed to meet a child’s specific sensory needs (Yack et al., 1998)
- Incorporates naturally occurring opportunities for children to get the sensory stimulation they need (Willbarger, 1995)

■ Miller & Robbin, 2005


How Long Does it Last?

- Tactile: 1 to 1 ½ hours
- Vestibular: 4 to 8 hours
- Proprioception: Up to 1 ½ hours
- Auditory, Gustatory & Olfactory: Transitory




Intervention and Support Principles

- Relationships and Engagement
- Modulation
 - SOR: low and slow, calming/inhibitory
 - Gentle stimulation, time-in place, deep touch pressure, proprioceptive input, heavy work, touch and sound to calm, mouth
 - SUR: fast and blast, alerting/facilitating
 - Movement with varied positions, light touch, a-rhythmic music
 - SS: lots of purposeful activities, stop/go
 - Run, jump, with purpose (bring something back), proprioceptive input, heavy work, functional activities, assign jobs, fidgets, oral motor, stop/go activities, recess




Intervention and Support Principles

- Sensory-Based Motor Disorder
 - Postural Disorder: improve core stability, improve bilateral integration (superman swing, being an airplane, working in prone, fragile egg, soft net climber, hoppityhop)
 - Dyspraxia: experiment with many variations of activities/ novelty, games that involve specific directions of body parts in space, generate new ideas with familiar toy, obstacle courses, Simon says (start with posture/movement and progress to more complex sequences)



Intervention and Support Principles

- Sensory Discrimination Disorder
 - Look at timing, space, intensity, and duration
 - Visual: illusions, visual closure, rotation, position in space, part-whole, differentiate based on specific detailed characteristics
 - Auditory: sound Bingo, music discrim, same/different
 - Tactile: activities that are rich in time and space, deep pressure esp. hands and mouth (vibratory component, heavy cushions, rice/beans)



Intervention and Support Principles

- **Sensory Discrimination Disorder (cont.)**
 - Taste: same/different liquids and solids, eating without vision, multisensory cues
 - Smell: same/different, multisensory cues, ties to experiences, ties to task
 - Movement: activities that provide movement and resistance to movement (push/pull on scooter, use of carpet vs. tile, etc.)



"If there is no reinforcer, there is no lesson"

-Andrew Bondy

Reinforcement

Intervention Ziggurat



Reinforcement

Reinforcement

- Defined as “a situation or event that follows a particular behavior, resulting in an increased likelihood that a behavior will recur in the future” (Bregman & Gerdtz, 1997, p. 611)
- Provided that a consequence is desirable, the behavior will be displayed more in the future
- Essential to process of acquiring new skills



Reinforcement Reminders

Reinforcement increases the likelihood of a behavior

“The way positive reinforcement is carried out is more important than the amount”

-B.F.

Skinner



Reinforcement Reminders

- Involve students/clients in the process of selecting reinforcers
- Start with high rate of reinforcement for new skills
- Use variable rate of reinforcement for maintenance
- Reinforce practice
- Reinforce prompted behavior
- Reserve some reinforcers to maintain their effectiveness

Reinforcement Menu

My School Rewards

- 10 minutes of reviewing baseball statistics in personal magazines/books
- 15 minutes to research on the internet on baseball/sports statistics/events
- Time to browse books in the school library

Amy Bixler, 2006

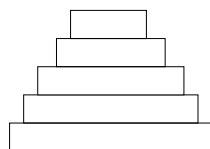
Home Reinforcement Menu

My Home Rewards

- 30 minutes of time to browse the web
- Trip to local baseball card store to look
- 30 minutes of video games

Amy Bixler, 2006

Intervention Ziggurat



**Structure & Visual/Tactile
Supports**

Structure and Visual/Tactile Supports

- Based on core characteristics of Autism
 - Intense drive to find order and make sense of their world
 - Tend to conceptualize ideas and experiences in a visual way
- Visual information may be used to address a variety of needs
 - For instance, visual supports shown to improve communication skills (Thieman & Goldstein, 2004)



Common Misperceptions

- If an individual can read then he/she does not need visual supports
- He's in high school, he does not need an individualized schedule or other visual supports
- I can stop using a visual schedule once my student learns the routine
- If an individual has not looked at his/her schedule in three weeks he/she does not need it anymore

Visual Supports

- Visual Supports are a highly effective tool for use in the support of children on the Spectrum.
- Visual Supports enable children and adults with ASD to:
 - Improve functional communication
 - Improve understanding of the social world
 - Increase independence.

"And it is best if you know a good thing is going to happen, like an eclipse or getting a microscope... And it's bad if you know a bad thing is going to happen like having a filling or going to France. But I think it is worst if you don't know whether it is a good thing or bad thing which is going to happen."

- From: *The Curious Incident of the Dog in the Night Time*, by Mark Haddon, 2003

Structure and Visual/Tactile Supports

There are many advantages for using visual supports...

Some of the most important for individuals on the autism spectrum include the following:

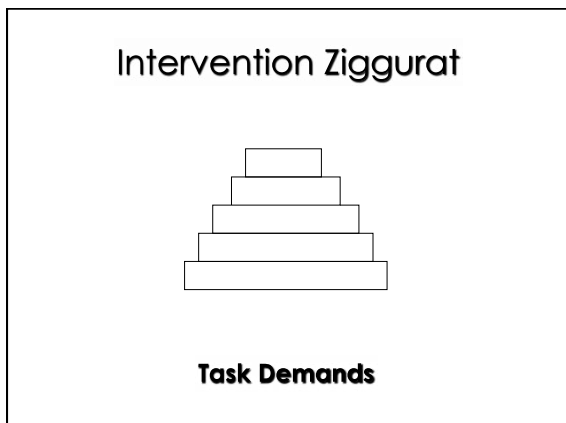
- Visual Supports are permanent; speech is transient.
- Visual Supports are usually more concrete and less symbolic than speech.

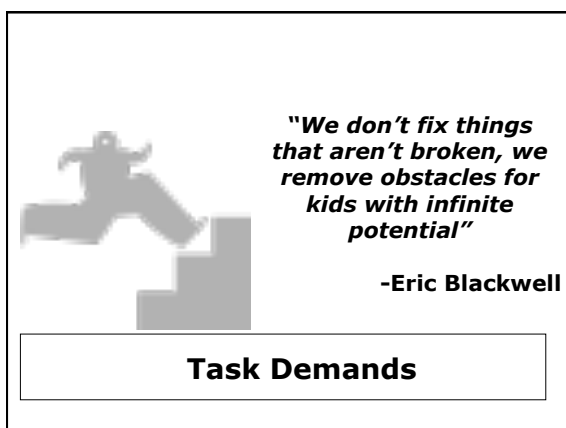
What are Visual Supports?

*Schedules, To do lists, Work Systems, Visual Schedules of Reinforcement, Timelines, Maps, etc.

*Some interventions that are based on the elements of visual supports include:

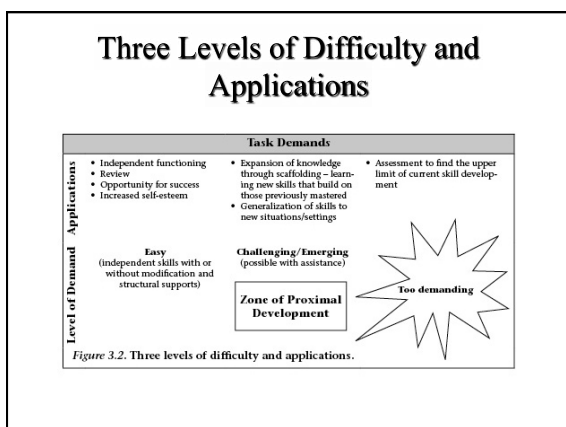
- Structured Teaching, Social Stories, The 5 Point Scale, Video Modeling, Video Self Modeling, Power Cards, Cartooning, etc.





***"We don't fix things
that aren't broken, we
remove obstacles for
kids with infinite
potential"***

-Eric Blackwell



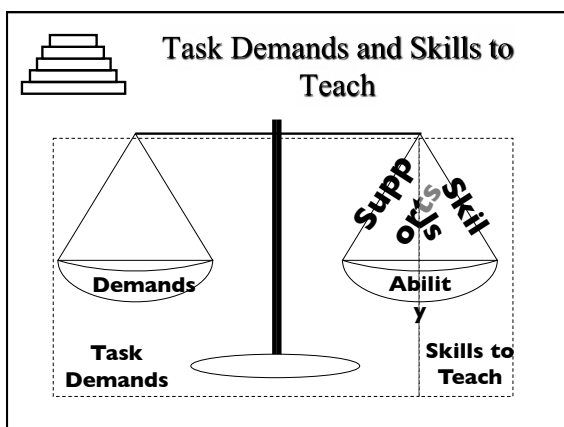
Zone of Proximal Development (ZPD)

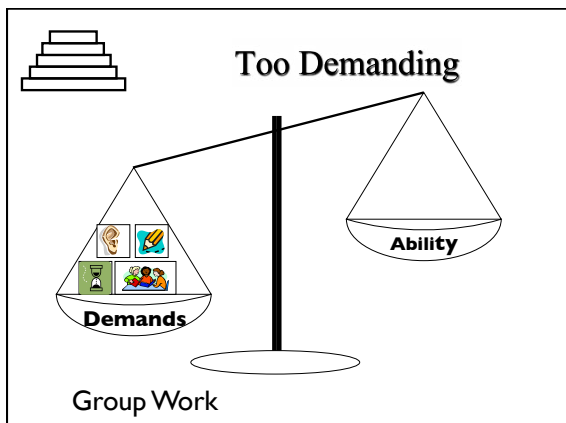
Vygotsky's concept (1978, as cited in Miler, 1993, pp. 380-381)

The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state. The functions could be termed the "buds" or "flowers" of development rather than the "fruits" of development.

ZPD

- ZPD refers to skills that can currently only be accomplished with assistance
- ZPD is appropriate to consider when trying to teach new concepts that build on known skills
- By acknowledging and carefully adjusting task demands, we can often prevent problems
- Goal of many interventions is to instill skills so that an individual can accomplish a task





Examples of Task Demand Interventions

- Provide written instructions
- Allow use of laptop to take notes
- Give extra time for written work
- Teach to use a Personal Digital Assistant (PDA)
- Provide organizational skills support
- E-mail assignments, reminders

Examples of Task Demand Interventions

- Using coping cards
- Create Circle of Friends
- Provide narration
- Provide high interest activities to encourage social interaction

Example of Task Demand Interventions

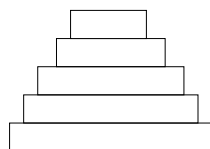
- Provide a peer buddy/mentor
- Give highlighted text
- Provide monitoring
- Provide “safe place”, “chill room”, “break room”
- Allow for breaks
- Prepare for change
- Minimize transitions

Finding our Way



- Priming
- Predicting
- Countdown
- Wrap-up
- Rewards


Intervention Ziggurat



Skills to Teach

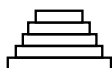
Skills to Teach

Autism spectrum disorders are lifelong conditions that require intervention throughout the lifespan. Only when the sensory system is calm, reinforcement is available, the environment is made predictable through structure and visual/tactile supports, and task demands are carefully designed can skills be effectively taught and demonstrated.



"The teacher who does not understand that it is necessary to teach autistic children seemingly obvious things will feel impatient and irritated"
-Hans Asperger

Skills to Teach



The Seemingly Obvious

- What is it about the situation that comes naturally to everyone else but is missing for this person? Why is it that others do not show the same behavior?
- What is it that has not occurred to me to teach?

That is the seemingly obvious. ***That*** is the thing to teach.

Assessment

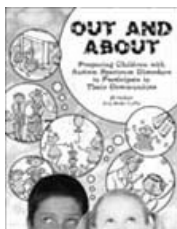
- ABLLS
- VB-MAPP
- Vineland
- Michelle Garcia Winner
- Jed Baker
- Assessment of Social & Communication Skills for Children with Autism (in Do-Watch-Listen-Say by Catherine Quill)
- Achievement tests
- Behavior Rating Scales

The Hidden Curriculum



- Locker room rules
 - If there are people taking showers or changing their clothes, do not stare at them or make comments about their bodies
 - It is not appropriate to touch others in the restroom or shower

Out and About



- Blueprints for supports needed for successful community outings
 - Waiting plan
 - Communication
 - Social
 - Visual Supports
 - Hidden Curriculum

Designing A Global Intervention Plan

Steps to Designing a Comprehensive Intervention Plan



Designing a Global Intervention

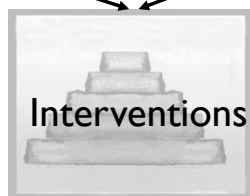
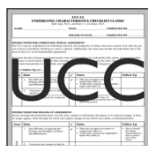
- Prioritize UCC areas of concern
- Select UCC items to address
- Develop interventions for each level of the Ziggurat
- Ensure that intervention is complete

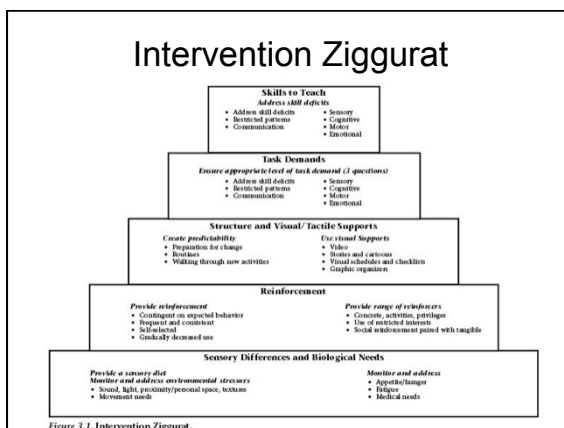
UCC Areas

- Social
- Restricted Patterns
- Communication
- Sensory Differences
- Cognitive Differences
- Motor Differences
- Emotional Vulnerability
- Known Medical/Biological Factors

Select Key UCC Items from UCC Areas

- Select key UCC **items** for *each* of the Selected UCC **areas**.
- Choose items that are essential (necessary for progress) and developmentally appropriate.
- Emphasize items that are more pivotal (building blocks for additional skills). Avoid selecting redundant items.





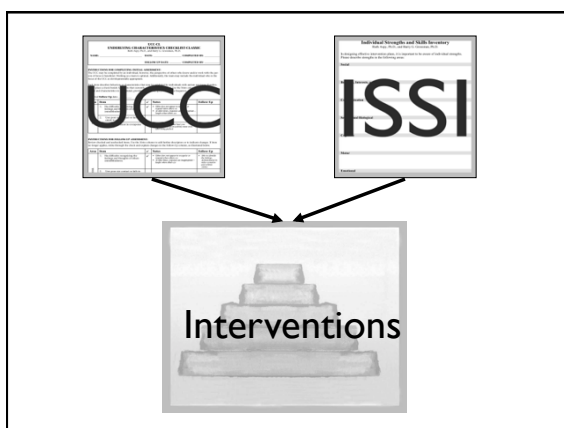
ZIGGURAT WORKSHEET

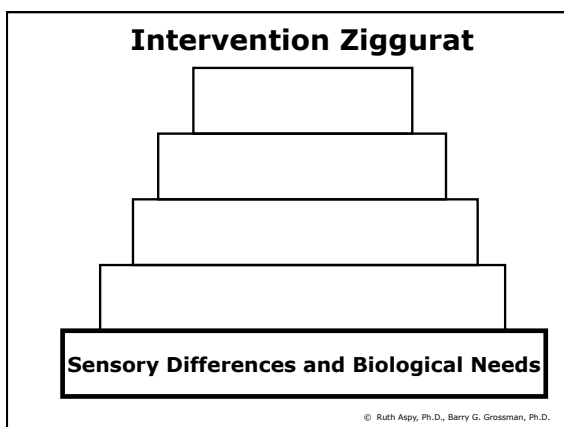
BEHAVIOR/AREA OF CONCERN	INTERVENTIONS	CHOOSE ALL THAT APPLY		
		A	B	C
 Sensory/Biological Needs	Sensory/Biological Interventions Underlying Characteristics Addressed			
 Reinforcement	Reinforcement Interventions Underlying Characteristics Addressed			
 Structure & Visual Supports	Structure/Visual Support Interventions Underlying Characteristics Addressed			
 Task Demands	Task Demand Interventions Underlying Characteristics Addressed			
 Skills to Teach	Skill Development Underlying Characteristics Addressed			

Attacking the Ziggurat

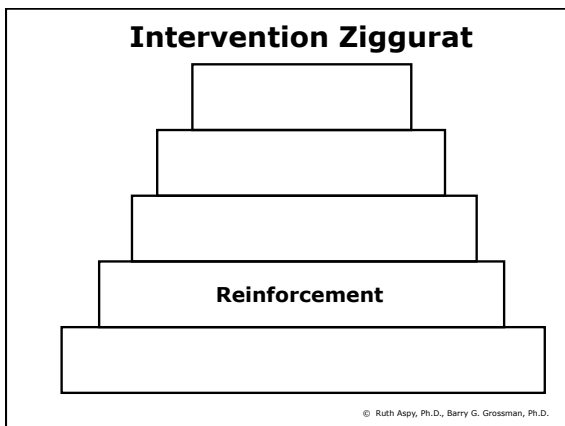
- **Select Intervention**
 - Does it address underlying need?
 - What level?
- **Select UCC Item**
 - Develop intervention.
 - What level?
- **Select Ziggurat level**
 - Select UCC item
 - Develop Intervention

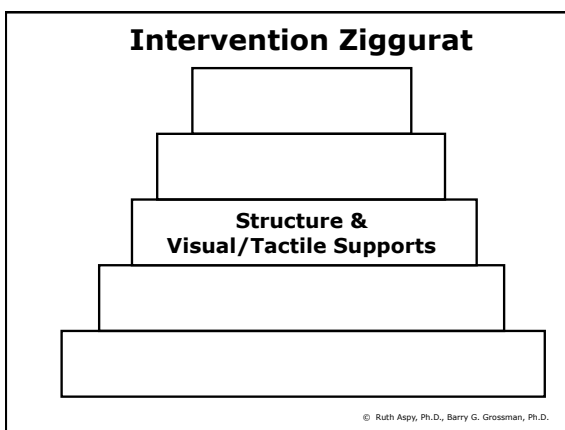
Complete Sheldon's Ziggurat Worksheet

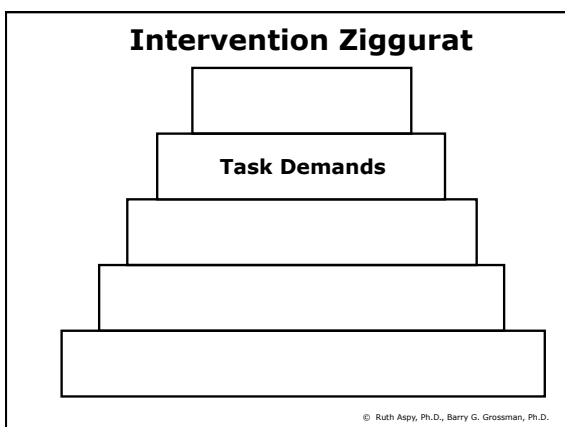


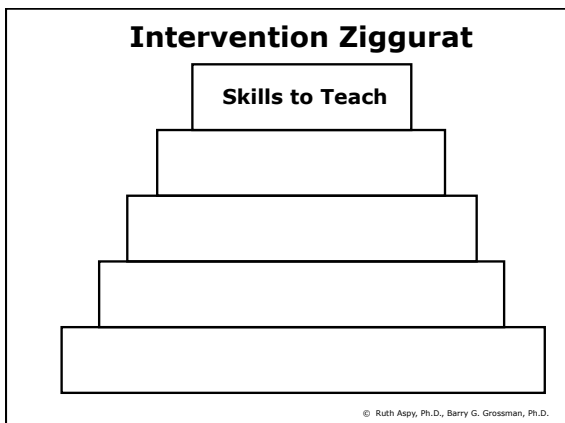


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- One of the greatest challenges in designing interventions is the ability to “see the autism.”
- When uncertain, it is always better to intervene as if the behavior is related to the disability.
- An ABC-I is an essential tool that builds on the strengths of the FBA model and iceberg analogy.

FBA for Social Isolation

Antecedent(s)	Behavior	Consequence(s)
<ul style="list-style-type: none"> • Recess • Low structure • After lunch 	<ul style="list-style-type: none"> ⊗ “Loner” on playground ⊗ Wandering the perimeter ⊗ Flapping hands ⊗ Shaking sticks in front of eyes ⊗ Talking to self 	<ul style="list-style-type: none"> • Isolated from peers • Opportunity to engage in stereotypic behavior

Figure 2.4. Functional behavioral assessment for social isolation.

FBA for Melting Down

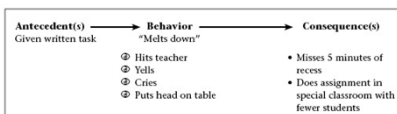


Figure 2.5. Functional behavioral assessment for melting down.

Interventions Based on FBA

- Antecedent interventions are best described as preventive.
- Interventions at the point of behavior teach skills sometimes called replacement behaviors.
- Consequence interventions change the factors that follow and sustain behavior.
- It is not possible for learning to occur without reinforcement.

The Iceberg Analogy

- • Universal analogy for describing critical aspects of objects or circumstances not apparent without careful observation
- • Creators of the Treatment and Education of Autistic and Communication handicapped Children (TEACCH) approach applied this analogy to aid in understanding the behavior of individuals with autism

TEACCH Iceberg Schopler (1994)

- Emphasized the importance of identifying underlying strengths and needs related to the disorder
- Interventions based on the iceberg concept are designed to address underlying deficits or characteristics associated with autism

Schopler's Iceberg (1994) Applied to Social Isolation

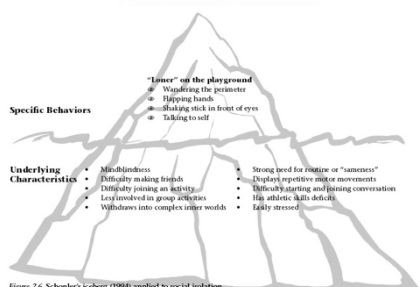


Figure 2.6. Schopler's iceberg (1994) applied to social isolation.
Adapted from Behavioral priorities for autism and related developmental disorders, by E. Schopler, 1994. In: E. Schopler & C.B. Mesibov (Eds.), *Behavioral Issues in Autism* (p. 73). New York: Plenum Press. Copyright 1994. With kind permission of Springer Science and Business Media.

Schopler's Iceberg (1994) Applied to Meltdowns

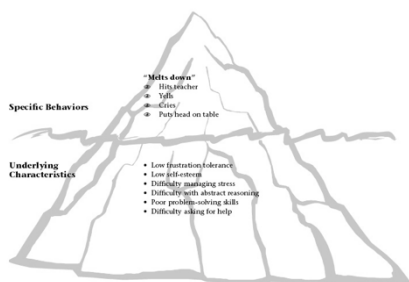


Figure 2.7. Schopler's iceberg (1994) applied to meltdowns.
Adapted from Behavioral priorities for autism and related developmental disorders, by E. Schopler, 1994. In: E. Schopler & C.B. Mesibov (Eds.), *Behavioral Issues in Autism* (p. 73). New York: Plenum Press. Copyright 1994. With kind permission of Springer Science and Business Media.

The ABC-Iceberg

- Incorporates an FBA by looking at events that occur before and after a behavior
- The inclusion of the before and after events brings more aspects of the ASD to light
- Difficulties with problem solving and understanding nonverbal communication are additional factors that intervention must address

ABC-I Model Applied to Social Isolation

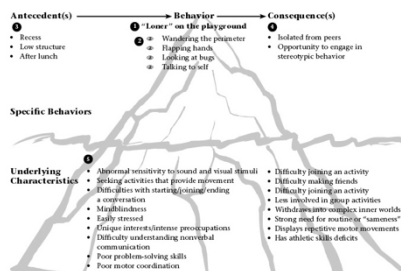


Figure 2.8. ABC-I model applied to social isolation.

ABC-I Model Applied to Meltdowns

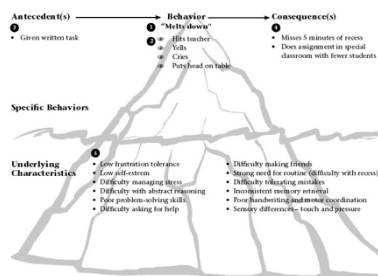
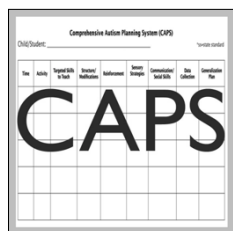


Figure 2.9. ABC-I model applied to meltdowns.

The Next Step: Comprehensive Autism Planning System



4

Making the Program a Reality



Why was the CAPS developed?

- Teams were changing and training would be needed again each year.
- During transitions, knowledge was not shared.



Why was the CAPS developed?

- Student often move and new teams have to get to know these students, reinventing the wheel is not fair to the student or the teacher.
- Simply what works for the individual was not being shared.



What does the CAPS do?

- Provides a venue for individualized team planning combining effective and diverse strategies as needed.
- Provides consistency of programming across time and setting
- Bridges IEP with core curriculum to effectively use daily teachable moments.
- Facilitates targeted professional development
- Facilitates transition at the end of school year
- Provides structured flexibility across methodologies.

Who is involved in the CAPS?

- Suggested Team Members
 - Parents
 - General Education Teacher
 - Special Education Teacher
 - Para-professional
 - Speech Language Pathologist
 - Occupational Therapist
 - School Psychologist
 - School Based Administrator
 - Regional Educational Support Personnel

Comprehensive Autism Planning Systems (CAPS)

Henry and Myles, 2007

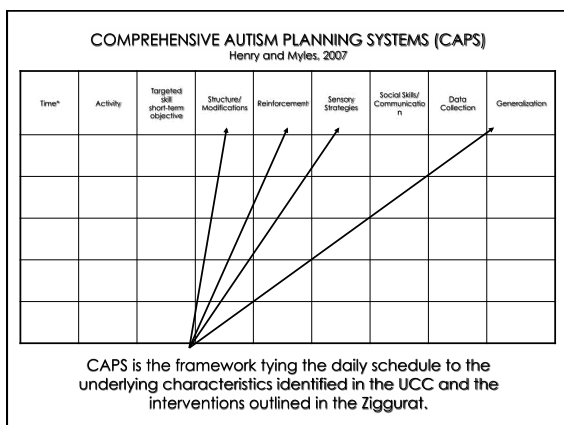
Time*	Activity	Targeted skill short-term objective	Specialty Designed Instruction	Data collection (min. 2w/ week)	Instructional Materials	Social Skills	Sensory strategies	Generalization Plan

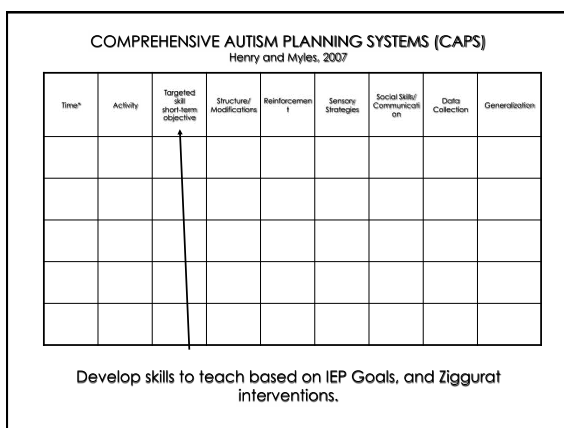
Framework NOT Paperwork!

Time*	Activity	Targeted skill short-term objective	Specialty Designed Instruction	Data collection (min. 2w/ week)	Instructional Materials	Social Skills	Sensory strategies	Generalization Plan

Pre-CAPS

- Baseline look at structure and services in place prior to any UCC or Ziggurat intervention
- Observation of strategies and supports that are currently being utilized across the student's day.





Strengths of the Ziggurat Model

- Provides a process and framework for designing an intervention plan
- Addresses underlying characteristics of ASD
- Emphasizes and enhances evidence-based strategies
- Facilitates comprehensive intervention design

"Make everything as simple as possible but not simpler"

- Albert Einstein

Strengths of the Ziggurat Model

- Incorporate Assessment
- Emphasize positive approach/ reinforcement
 - Underlying Characteristics Checklist
 - ABC Iceburg
- Facilitates interdisciplinary interventions

Strengths of the Ziggurat Model

- Consistent with Positive Behavioral Interventions and Supports (PBIS) and other guidelinesState standards
- Response to Intervention
- Individualized
- Evidenced based strategies
- Functional assessment

Strengths of the Ziggurat Model

- Comprehensive
- Skill development
- Improves environment
- Facilitates transitions
- Promotes collaboration and communication among parents and professionals

Based on information from

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